CHAPTER 2

REVIEW OF RELATED WORKS AND STUDIES

This chapter provides discussions and citations regarding the different literature and researches reviewed which are related to the use of online appointment systems, SMS notifications, and automated patient records.

**An online appointment system is much recommended nowadays because the internet age has dramatically altered communication patterns (**Friedman, 2013)**. Face-to-face interchanges continue to give way to digital message exchanges. Channels for these digital communications have rapidly morphed and expanded over the past years toward a faster, more interactive means of exchange. This is the reality that faces dental practices: Interaction with current and prospective patients will predominately take place online.** A national research study by Sesame Communications documented that 97 percent of dental patients would rather click than call their dental practice. The same study found that 79.5 percent of dental patients prefer SMS text and email reminders over phone calls from the practice. And so this is where an appointment system would go along the way, since the internet age has drastically risen and technology nowadays has almost at its maximum peak for this generation. There are other various examples for an SMS notification in systems.

One example of this efficient SMS notification was implemented on Birrong Girls High School (Cooper, 2011). The system improved the student’s safety with early notification of absence, improved the school's ability to reach and contact parents, and allowed faster communication between the school and parents, and was a personal, confidential and discrete service.

An SMS notification has also been implemented in the Polytechnic University of the Philippines Student Monitoring using RFID with SMS Advisory (Del Rosario, 2012). The purpose of the said system was to monitor the arrival and departure of Polytechnic University of the Philippines students. The students will use their RFID card (Radio Frequency Identification) to enter in the school premises. The RFID reader will detect if the RFID card is registered on the database of the school. The function of SMS (Sort Message Service) Advisory is it will give the parents the information regarding the time of the arrival and departure of their children in the PUP campus even though they are at home.

An appointment system has brought in the benefits of eliminating service provider's waiting lists, improving patients' timely access to services and reducing no-show rate (Yan, Yu, & Hu, 2010). However, to implement this model, practices need to collect relevant information, develop contingency plans and set up practice strategies to balance the provision of care and patient's demand. These tasks are not always easy to achieve. Understanding the requirements and constraints for effective management of patient booking is essential for developing an automated appointment system that effectively supports this model in practice. A long appointment delay cause patient dissatisfaction with the health care clinic and also has clinical ramifications (Giachetti, 2008). Long appointment delays are also found to increase patient no-shows, which further wastes medical resources and leads to a decrease in clinical care. Thus making a policy of eliminating multiple appointment types can be effective in reducing appointment delay and as consequent no-shows. This policy is equally effective as general overbooking without penalizing the entire patient population. So a need of an appointment system could really help improve and allow patients a more conventional way to communicate via online.

Furthermore, in an article entitled “Automated Pharmacy System Cuts Waiting Time at Themba Lethu Clinic” (Banoo, 2010), the title already gives us the idea that automation of something may lead to the cutting of waiting time. With the implementation of the patient profile, and records automation, the waiting time of each patient will be lessened because information needed for transactions between costumers and staff could easily be retrieved and easily automated.

After making-up with the automation of the patient records, thinking of possible ways for the information to be more safe and secured, we came to think of something that would make it better in terms of data security. Just like in the article, IiWAS '09 Proceedings of the 11th International Conference on Information Integration and Web-based Applications & Services (Kim, 2009), they made a web-based application which was focused on patient electronic medical records. Their idea of a web-based application was created in order for the medical records to be easily be viewable by doctors on their mobile devices.

In the article “Dental Information System” (Masic, 2012), they have supplied ideas that are similar to a tracker, which would keep track of the information stored in the system. An example of this is that if you have a bunch of patient information stored in your system, you still can filter out information according to your needs, like filter it out by date, name, etc. In our system, the idea is applied in the patient record which would keep track of the treatment done to the patient, the date, and also the payment of that transaction. In the clinic’s patient information, automation would be a complete solution for the problems such as long waiting time, the possibility of the loss of patient record, retrieving of manual records, redundancy of patient information, and the information about the payments (incurred fees, paid, balances).

**RESOURCES**

<http://www.birronggir-h.schools.nsw.edu.au/parents/sms-notification-system> - sms notif

<https://www.behance.net/gallery/4271023/PUP-Student-Monitoring-Using-RFID-with-SMS-Technology> - sms notif